

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An organosilane-based composition for producing a barrier layer for gases, comprising at least one of composition (A), composition (B) and composition (C), wherein:

composition (A) comprises:

(i) at least one organoalkoxysilane ~~whose~~ having organofunctionality ~~displays comprising~~ at least one unsaturated hydrocarbon group;

(ii) at least one aminoalkylalkoxysilane;

(iii) at least one polyol;

(iv) ~~where appropriate, optionally another a further~~ alkoxysilane or alkoxysiloxane; ~~and~~

(v) ~~where appropriate, optionally~~ at least one nano- or microscale semimetal oxide or metal oxide, semimetal oxide hydroxide or metal oxide hydroxide, or semimetal hydroxide or metal hydroxide; ~~and/or~~ and

(vi) an organic solvent;

~~(vi) — composition (B) comprises at least one cocondensate composed of the components component (i), component (ii), component (iii), and, where appropriate, optionally component (iv) (iv), and also, where appropriate, optionally component (v), and the organic solvent (vi); and/or~~

~~(vii) — composition (C) comprises a reaction products-product produced under hydrolysis conditions from the components (i), (ii), (iii), and, where appropriate, (iv), and also, where appropriate, (v) of component (i), component (ii), component (iii), optionally component (iv) and optionally component (v), and the organic solvent (vi); and~~

~~(viii)—and organic solvent, with the proviso that there is the components of composition (A) and/or the precursors of composition (B) and composition (C) are present such that a molar ratio of component (i) : component (ii) : component (iii) wherein (i) = 1 and (ii) = from 0.5 to 1.5, and (iii) = from 0.3 to 1.1 is 1 : 0.5 to 1.5 : 0.3 to 1.1.~~

Claim 2 (Currently Amended): The composition as claimed in claim 1, wherein the component (i) comprises at least one member selected from the group consisting of:
~~comprising a component (i) selected from the series~~ vinyltrimethoxysilane, vinyltriethoxysilane, 3-methacryloxypropyltrimethoxysilane, 3-methacryloxypropyltriethoxysilane, 3-methacryloxypropylmethyldimethoxysilane, vinylmethyldimethoxysilane, vinylmethyldiethoxysilane, 3-methacryloxypropylmethyldiethoxysilane, 3-acryloxypropyltrimethoxysilane, 3-acryloxypropyltriethoxysilane, 3-acryloxypropylmethyldimethoxysilane, and 3-acryloxypropylmethyldiethoxysilane.

Claim 3 (Currently Amended): The composition as claimed in claim 1, ~~which comprises a~~ wherein the component (ii) comprises at least one member selected from the group consisting of 3-aminopropyltrimethoxysilane, 3-aminopropyltriethoxysilane, N-phenyl-3-aminopropyltrimethoxysilane, N-phenyl-3-aminopropyltriethoxysilane, N-butyl-3-aminopropyltrimethoxysilane, N-butyl-3-aminopropyltriethoxysilane, N-methyl-3-aminopropyltrimethoxysilane, N-methyl-3-aminopropyltriethoxysilane, N-(2-aminoethyl)-3-aminopropyltrimethoxysilane, N-(2-aminoethyl)-3-aminopropyltriethoxysilane, N,N-di(2-aminoethyl)-3-aminopropyltrimethoxysilane, N-[N'-(2-aminoethyl)-2-aminoethyl]-3-aminopropyltrimethoxysilane, N,N-di(2-aminoethyl)-3-aminopropyltriethoxysilane, N-[N'-(2-aminoethyl)-2-aminoethyl]-3-aminopropyltriethoxysilane, 3-

aminopropylmethyldimethoxysilane, 3-aminopropylmethyldiethoxysilane, N-butyl-3-aminopropylmethyl-dimethoxysilane, N-butyl-3-aminopropylmethyldiethoxysilane, N-(2-aminoethyl)-3-aminopropylmethyldimethoxysilane, N-(2-aminoethyl)-3-aminopropylmethyldi-ethoxysilane, N,N-di(2-aminoethyl)-3-aminopropylmethyldimethoxysilane, N-[N' (2-aminoethyl)-2-aminoethyl]-3-aminopropylmethyldimethoxysilane, N,N-di(2-aminoethyl)-3-aminopropylmethyldiethoxysilane, and N-[N'-(2-aminoethyl)-2-amino-ethyl]-3-aminopropylmethyldiethoxysilane.

Claim 4 (Currently Amended): The composition as claimed in claim 1, wherein the component (iii) is ~~comprises~~ an aliphatic or aromatic polyol.

Claim 5 (Currently Amended): The composition as claimed in claim 1, wherein the component (iii) comprises at least one member selected from the group consisting of glucose, xylitol, mannitol, sorbitol, resorcinol, pyrogallol, hydroquinone, salicylic acid, ~~or~~ and glycerol.

Claim 6 (Currently Amended): The composition as claimed in claim 1, wherein:
~~which comprises a~~ the component (iv) is employed; and
the component (iv) comprises at least one member selected from the series-group
consisting of tetraethoxysilane, oligomeric tetraalkoxysilane, propyltrimethoxysilane, propyltriethoxysilane, octyltrimethoxysilane, octyltriethoxysilane, alcoholic and/or aqueous compositions of oligomeric cocondensates composed of aminoalkylalkoxysilanes and of fluoroalkylalkoxysilanes, and ~~also~~ oligomeric condensates or cocondensates composed of alkylalkoxysilanes and/or of vinylalkoxysilanes.

Claim 7 (Currently Amended): The composition as claimed in claim 1, ~~which~~
wherein:

~~the comprises a component (v) is employed; and~~

the component (v) comprises at least one member selected from the group consisting
of precipitated or fumed silica (~~precipitated or fumed~~), silicates, aluminum oxides, aluminum
oxide ~~hydroxides~~ hydroxides, and aluminum ~~hydroxide~~ hydroxide.

Claim 8 (Currently Amended): The composition as claimed in claim 1, wherein the
organic solvent ~~is~~ comprises a straight-chain or branched, aliphatic or cycloaliphatic or
araliphatic or aromatic alcohol.

Claim 9 (Currently Amended): The composition as claimed in claim 1, ~~which~~
~~comprises~~ further comprising a photoinitiator.

Claim 10 (Currently Amended): The composition as claimed in claim 1, wherein the
composition ~~which~~ comprises from 10 to 60% by weight of solids.

Claim 11 (Withdrawn): A process for preparing an organosilane-based composition
for producing a barrier layer for gases as claimed in claim 1, which comprises:

- a) mixing together components (i), (ii), (iii), where appropriate (iv), where
appropriate solvents and water, and permitting the mixture to react at room temperature; or
- b) forming an initial charge from components (i), (ii), and, where appropriate,
(iv), heating the mixture, adding component (iii), where appropriate dissolved in a solvent,
and adding water, and permitting the mixture to react at reflux; or

c) forming an initial charge from components (i), (ii), where appropriate (iv), where appropriate solvents, and, where appropriate, component (v), with thorough mixing, heating the mixture, adding component (iii), where appropriate dissolved in a solvent, and adding water, and permitting the mixture to react at reflux; or

d) dispersing fine-particle silica in vinylsilane, adding the other components, and reacting the mixture at room temperature or at reflux,

wherein there is a molar ratio (i) : (ii) : (iii), wherein (i) = 1 and (ii) = from 0.5 to 1.5 and (iii) = from 0.3 to 1.1.

Claim 12 (Withdrawn): The process as claimed in claim 11, wherein use is made of from 0.5 to 1.8 mol of water per mole of silicon of components (i), (ii), and (iv).

Claim 13 (Withdrawn): The process as claimed in claim 11, wherein the amount used of component (v) is from 0.01 to 40% by weight, based on the entirety of components (i) to (iv).

Claim 14 (Withdrawn): The process as claimed in claim 11, wherein the reaction is carried out at a temperature in the range from 10 to 90°C and for a period of from 1 to 36 hours.

Claim 15 (Currently Amended): ~~A composition as claimed in claim 1 or of a composition obtainable as claimed in claim 11 for producing a radiation-cured barrier layer for gases on a packaging material composed of, comprising:~~

a plastic, paper, cardboard, or paperboard substrate; and
a barrier layer;

wherein the barrier layer is formed from the composition of claim 1.

Claim 16 (Currently Amended): A composite structure, comprising:

a barrier layer; and

at least one further coating applied as an outer layer to the barrier layer;

wherein:

the barrier layer is formed from the composition as claimed in of claim 1 or a

~~composition obtainable as claimed in claim 11 for producing a radiation-cured barrier layer for gases, wherein; and~~

the at least one further coating is capable of curing by a thermal, free-radical, or radiation method is applied as an outer layer to the barrier layer.

Claim 17 (Currently Amended): The ~~composition~~ composite structure as claimed in claim 16, wherein:

~~to produce the outer layer is formed by applying a coating composition is applied which comprises a binder curable by UV radiation or electron beams and comprises inorganic lamellar particles, wherein either the outer layer material is applied a coating composition to the a cured first barrier layer and then is cured curing, or by applying a coating composition to an uncured or the first barrier layer and then curing;~~

the outer layer are applied wet-on-wet and cured together the coating composition comprises a binder curable by UV radiation or electron beam radiation; and

the coating composition comprises inorganic lamellar particles.

Claim 18 (Currently Amended): The ~~composition~~ composite structure as claimed in ~~claim 16~~ claim 17, wherein the binder of the coating composition for the outer layer has been

comprises at least one member selected from the group consisting of acrylates, urethane-derived acrylates, epoxy-derived acrylates, cycloaliphatic epoxides, and polyepoxides.

Claim 19 (Currently Amended): The composition as claimed in ~~claim 16~~ claim 17, wherein the lamellar particles ~~have been~~ comprise at least one member selected from the group consisting of phyllosilicates ~~or of~~ and lamellar metal pigments.

Claim 20 (Currently Amended): The composition as claimed in claim 16, wherein:
the further coating ~~applied~~ comprises a lacquer;
~~which the lacquer~~ comprises ~~not only~~ a photoinitiator ~~but also~~, as further ~~components~~, and at least one reaction product derived from fine pulverulent silicate, organofunctional silane, and water.

Claim 21 (Withdrawn): A packaging material composed of plastic, paper, cardboard, or paperboard, which has been coated with a barrier layer composed of a cured composition as claimed in claim 1.

Claim 22 (Withdrawn): The packaging material as claimed in claim 21, which has been coated with a further cured outer layer which has been arranged on the barrier layer and has been produced by applying and curing a coating composition which comprises a binder curable by UV radiation or electron beams and comprises inorganic lamellar particles.

Claim 23 (Withdrawn): The packaging material as claimed in claim 21, which is sheet-like and takes the form of foils, sheets, or webs.

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Claim 24 (Withdrawn): The packaging material as claimed in claim 21, which takes the form of three-dimensional hollow articles.